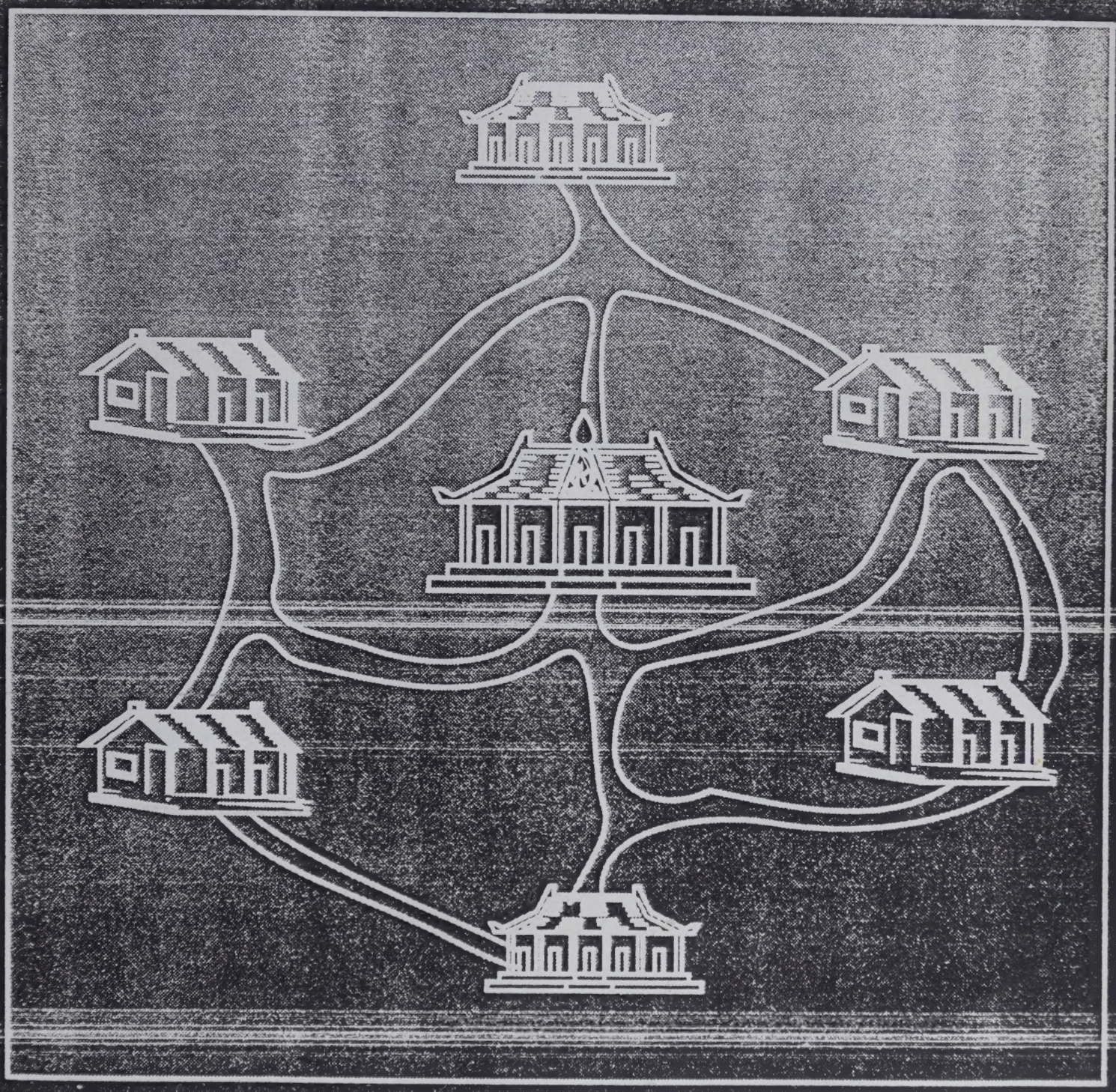
# Cluster School Development in the Kingdom of Cambodia



## Guidelines

**National Cluster School Committee**

**1995**

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ជាតិ សាសនា ព្រះមហាក្សត្រ
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ក្រសួងអប់រំ យុវជន និង កីឡា
លេខ: 334.អយក.សណន

# សេចក្តីណែនាំ

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# GUIDELINE/MEMORANDUM

In order to upgrade the quality of education and implement the Education for All, the Ministry of Education, Youth and Sport in collaboration with UNICEF, has established school clusters in four provinces, namely Battambang, Banteay Meanchey, Stung Treng and Takeo as a pilot project since 1993.

As a guide for school cluster committees, the Ministry of Education, Youth and Sport has drafted a document concerning school cluster development and submitted it to school cluster committees at all levels for tryout and revision.

It is therefore recommended that every province with cluster use this document as a temporary guide to organize the clusters according to specific situation in each province and send feedback to the Ministry to revise and update it so that it will become an effective and practical guideline.

Phnom Penh, 18 February 1995

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Substitute for the Ministry of Education,
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( Signature and Seal )

H.E. Bun Sok

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# Cluster School Development in the Kingdom of Cambodia

## 1. Introduction :

In mid 1993, UNICEF in cooperation with the Ministry of Education, Youth and Sport began the establishment of cluster schools in certain targeted areas that represent urban, rural, frontier and minority populations. The major objective of cluster schools are to redress any imbalance by grouping schools that are nearby together into a cluster, mixing strong schools disadvantaged schools in such a way that the later benefit from the advantages of the former. The Ministry seeks to utilize the cluster school project as a demonstration of alternative ways to improve teaching and learning to identify the best ways to decrease wastage rates and to efficiently achieve the educational goals in the Kingdom of Cambodia which has very limited resources.

There are some other NGOs working to improve primary education by using a similar model of cluster schools : **Redd Barna** operates in Phnom Penh, Siemreap and Kampong Cham. Other NGOs have programmes that are not full cluster school but are compatible with cluster : **Concern** operates in Banteay Meanchey , SIPAR operates in Preyveng, Svay Rieng and Kampong Chanang. Below are the concepts which are bases of the National Cluster School Demonstration Project as well as operational policies. They are published as a draft for field comment before final publication of Guidelines in preparation of nationwide expansion of cluster schools.

## 2. Objectives and Goals :

2.1 To improve access, quality and administration of primary education.
2.2 To reduce the disparity between schools
2.3 To reduce the wastage rate in primary education in targeted

school clusters by 25% within 5 years beginning with the organization of the first cluster at each site .

2.4 To promote community participation in primary education.

2.5 To promote Education For All by using school cluster as an institution to serve illiterate people in the community.

## 3. Definition of the Cluster School and Cluster School Concepts:

The National Cluster School Committee, with recognition and authority from the Ministry of Education, Youth and Sport, has determined the definition of the cluster school and cluster school concepts as follows: A Cluster School is a grouping of 6-8 primary schools for administrative and educational purposes. It is an organization of the schools in the same vicinity or neighboring villages ***within the district*** which are grouped together for the benefit of sharing available resources such as teaching and learning materials, facilities and staffs. so that the access for all children and the educational quality of all schools within the cluster is improved.

For example, book boxes may be shared between the schools as well as teachers.Seminars for the improvement of teaching methods may be held for all teachers in the cluster or sport events may be organized between the students of one or more schools. Among the schools one school may be designated as responsible for materials and / or the seat of administrative and training activities.

The cluster school functions include the formulation of school improvement plans and activities, approval of projects for staff development in the cluster and for monitoring teacher performance.

The meaning of the concept may be classified by focusing on its structures ***Figure 1.*** shows a common cluster school model in which one school is made ***a core or central school*** among the group of schools in the cluster, and is the **resource center** as well as the supervisory base of the system for administration and training .

**Figure 1.** A common of cluster school model

The cluster concept has partly grown from the developments in ***micro planning*** . Advocates of micro planning point out that even in the smallest country, it is impossible for the central Ministry of Education. Youth and Sports to know the specific circumstances of every schools and community. It is essential to integrate all plans into a national framework, but it is also essential to treat each locality as an entity in itself. Micro planning, which implies a degree of **decentralization**, can also permit strong local **participation** in decision making.

The most prominent objectives of the cluster schemes may be grouped into 4 main areas :

**3.1 Economic Objectives** : the chief economic objective of most cluster schemes is to improve cost-effectiveness. This may be done in three main ways:

1. Sharing Facilities : Classroom facilities can be shared among the schools within the cluster and as equipment for agriculture and sports , building, library books including teaching and learning materials etc.;

2. Sharing Staff : Similar strategies are possible with staff such as teaching staff who specialize in math or Khmer language, art, music or physical education and non-teaching staff such as typists or maintenance experts.

3. Bulk Ordering of Materials : If the schools are grouped together to order supplies such as stationary, chalk, paper and other materials they can usually realize discounts.

**3.2 Pedagogic Objectives :** This objective is to improve the quality of learning individual schools through equalizing access to teacher specialists and facilities. Improved training, monitoring and introduction of new teaching methods can be more easily managed thus improving the quality of education in other ways.

The cluster meetings help teachers to share ideas and tackle problems, meetings can act as a form of **in-service training .** The older or more experienced staffs can held the young and less experienced ones, and the enthusiastic teachers can help motivate everyone.

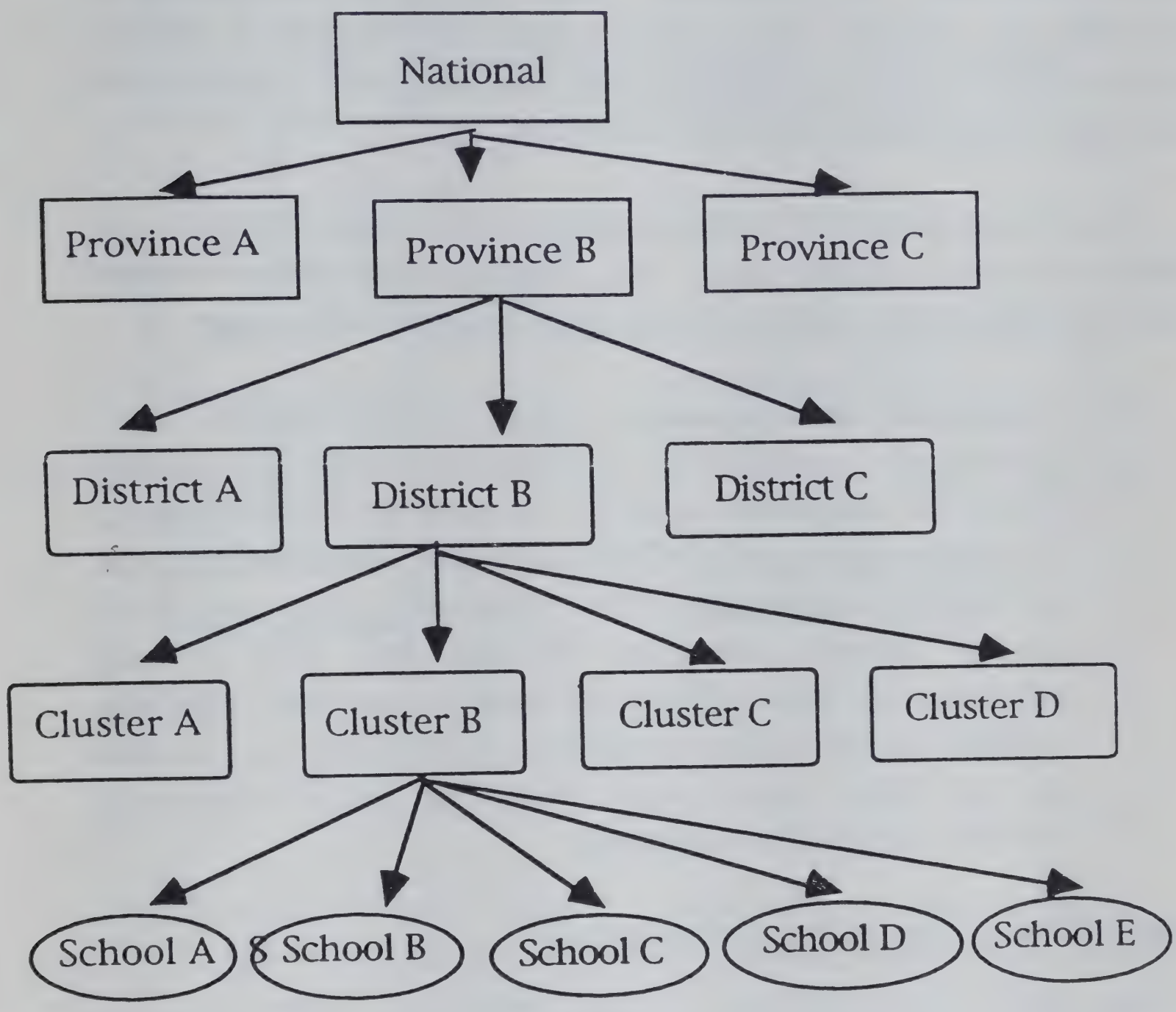
In the curriculum development process, the cluster can help by holding curriculum workshops at which new materials or textbooks can be trial tested before nationwide used.

Competition between the pupils, can be organized for both academic and non-academic activities such as sport events, examinations to help students and teachers evaluate their standards and also to encourage pupils to work harder.

**3.3 Administrative Objective :** In some countries cluster have

been made a formal unit in the administrative hierarchy, between the District and school as shown ***in figure 2.***

***Figure 2.*** Cluster formal unit in the administrative hierarchy




*" School Cluster in the Third World : Making Them Work ", Mark Bray, digest 23, UNESCO*

1. This type of arrange has several advantages :

The work of the District Education Officer can be thus simplified; instead of dealing with every schools individually, officers

can work through the cluster heads for onward transmission information to the schools.

2. The cluster heads are likely to know their areas and their personnel particularly well, therefore , they will be more effective at certain types of planning. For example, they will be able to predict local population changes in their areas and they can seize opportunities to make use of local talent and other resources .

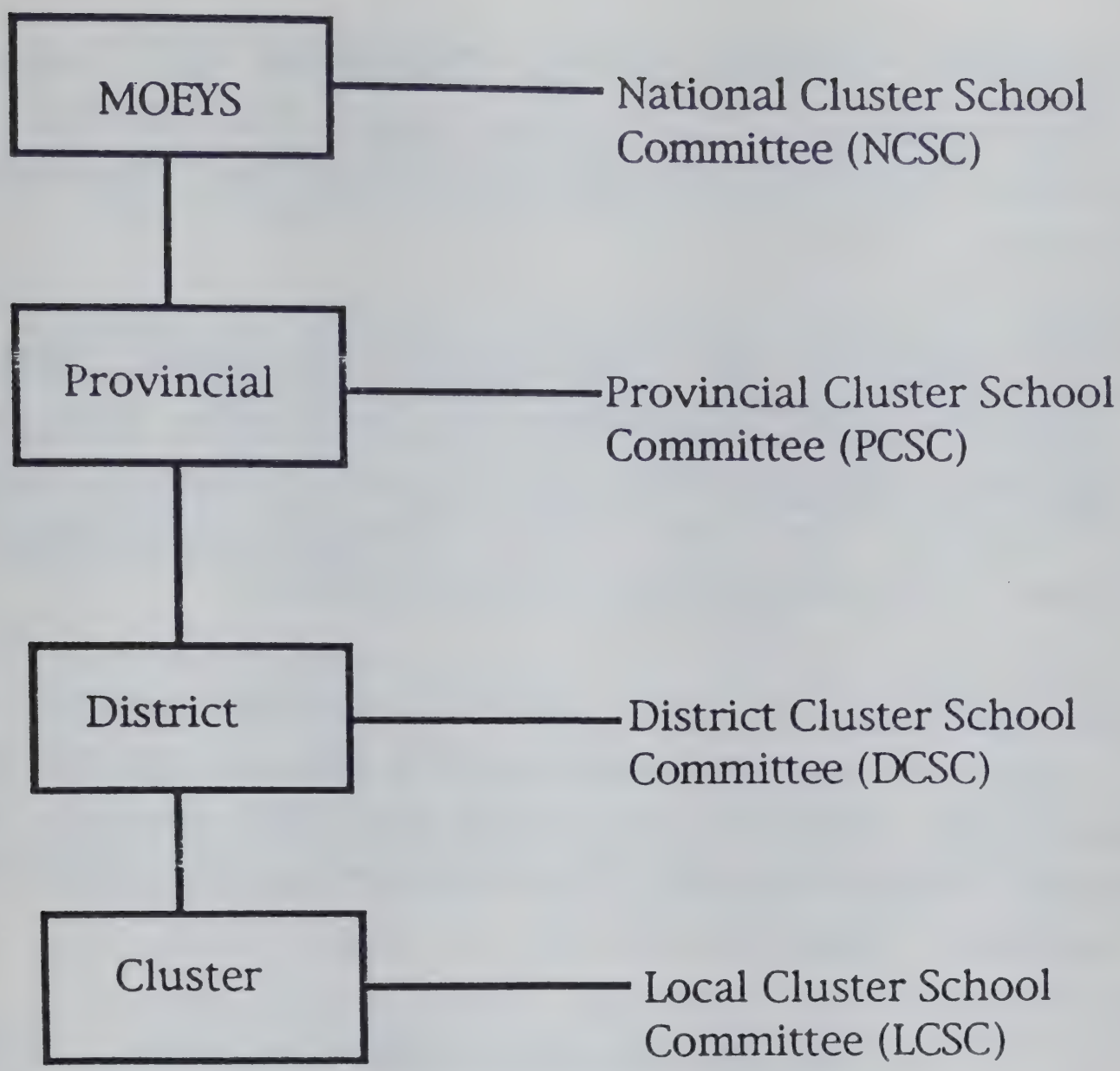
The cluster head will be given authority to inspect teachers and headmasters because cluster heads are geographically closer to their staffs and are better acquainted with the individuals in their charge.

**3.4 Community Development :** Cluster school requires community participation. Usually the parents are chiefly invited to contribute inputs to the existing schools system. To improve the quality of their children, the cluster should provide the opportunity to the community to access to the cluster resource center to develop their skill to help education for their children in many ways . They can help children attend school regularly, conduct surveys to find out how many school age children are not in school and provide information to parents.

## 4. Cluster School Administrative Structure

To achieve the objectives and goals of the cluster school project, the Ministry of Education, Youth and Sport has set up the following structures between the National, Province, District, Cluster and School as shown in figure 3.

*Figure 3 the cluster school administrative hierarchy between the National to the cluster.*




**4.1 At the Cluster School Level :** The cluster school is governed by **the Cluster School Committee,** which consists of all Headmasters as members in the cluster and a number of elected teacher representatives equal to one half of the number of the Headmasters. In addition to this committee, there are also local authorities such as commune chiefs, parents and monks who join for the purpose of popular community participation in the cluster.

The chairperson of the committee is a Cluster Director who is elected or agreed upon from among those who are school Headmasters in the cluster.

The term of office of the Chairperson and Teacher Representatives is four academic years. They may be re-elected but are not entitled to more than two consecutive terms.

**The Authority and Functions of the Cluster School Committee and Chairperson :** In accordance with the structure and organization of the cluster school and under leadership of the Cluster School Committee's Chairperson, there are six responsibilities to be carried out :

1. Organizing the Cluster School Committee meetings at least once a month and reporting all activities that the cluster school has undertaken and their result to the Office of Provincial Education, through the Office of District Education;

2. Visit and supervise all schools within the cluster at least twice a years,to support the teachers and headmasters in every way possible to improve the quality of education;

3. Gather data and information. Analyze this information to identify educational problems in the cluster, formulate solutions to problems and also report to the Office of District Education according to the date specified;

4. Develop annual plans to bring schools in conformity with quality improvement goals;

5. Liaise with community leaders to reduce drop out, incres increase enrollment, generate support for the school, etc.;

6. Preside at the cluster's committee meetings for the cluster schools teacher annual promotion of teacher and report to the Office of District Education;

7. Act as a coordinator within or outside the cluster;

8. Carry out other activities as specified by the Provincial and District Education Office.

***In order to conduct a Cluster School meeting at least one half of the Cluster School Committee members plus 1 are required to attend so that the meeting resolutions will be made by the majority. The cluster may appoint different or ad hoc committees to facilitate or fulfill the cluster's tasks as necessary.***

4.2 **At the District Level :** The Cluster School District Committee (DCSC) is chaired by the Education District Education Officer. Membership consists of 5 people : The District Education Chief, who acts as a chairperson, 3 government officials who are chosen from 3 educational departments such as, *general education , planning and statistics as non-formal education.* The District Officer is appointed as President of the committee.

**The Authority and Functions of the District Cluster School Committee:**

The areas are the responsibility of the District Cluster School Committee (DCSC):

1. Select the cluster site for approval by the Provincial Cluster School Committee;

2. Recommend the assignment and transfer of the Local Cluster School Committee members;

3. Analyze and recommend approval of the plans for renovation and construction of schools within the district school clusters;

4. Keep Cluster informed of all information and policies

issued by the Ministry of Education, Youth and Sport through the Provincial Education Office. To report as needed, information from the clusters to the Province.

5. Monitor, control and supervise all cluster schools within the District to ensure implementation of the cluster school plan as approved by Provincial Education Office;

6. Formulate Cluster School plans for the District , especially, concerning access and academic improvement and decrease in the wastage rate in the District. Propose the plan to the Provincial Education Office annually.

7. Encourage competitions between schools within and between clusters in the District such as examinations , sports and other activities.

**4.3 At the Provincial Level :** The Provincial Cluster School Committee (PCSC) is the responsible body for the cluster schools in a Province. It consists of 7 members: The Provincial Education Director, who acts as a chairperson, the Deputy Provincial Education Director who is responsible for General Education and acts as Deputy Chairperson, 4 education officials who are from four main departments such as , *General Education , Personnel and the Teacher Training Department, Planning and Finance Department and the non-Formal Education Department* The governor or the vice governor is invited as a honorary president of the committee.

**The Authority and Functions of the Provincial Cluster School Committee**

*A. Planning and Administration*

1. Gathering and analyzing educational data and

information for submission of the MOEYS through the National Cluster School Committee(NCSC) twice a year.

2. Formulation of cluster school operational plans and policy in accordance with national education development policies and local needs.

3. Recommend cluster school plans and budgets for cluster school activities to be undertaken in the province.

4. Assist the District and Cluster School Committee in planning and implementing a sound system to improve access quality in education and decrease the wastage rate.

5. Encourage and motivate both teachers and non-teachers by visiting the clusters in cooperation with the DEO.

*B. Implementation*

1. Coordinate fully with NGOs, UNICEF and NCSC in the operation of cluster school plans.

2. Facilitate the cluster school training program to upgrade teaching and management skills as necessary.

3. Assure that all satellite schools within the cluster properly get and use the supplies given to them.

*C. Monitoring and Evaluation*

1. Monitor the implementation of the cluster school activities at least once a month.

2. Evaluate district and cluster performance for annual promotion based on criteria which defines merit.

**4.4 At the National Level:** At the National Level, the cluster school operate under the **Department of General Education** and is the responsible body for nationwide development and implementation of clusters in accordance with overall Ministry policies. It consists of 9 members chaired by the Director of General Education Department, 8 government officials chosen from 5 main departments: *4 from General Education Department , 1 from the Teacher Training Department, 1 from the Planning and Finance Department, 1 from Research Institute and 1 from the Non-formal Education Department.* The Under Secretary of State responsible for primary education is invited as a Honorary President of the committee.

**The Authority and Function of the National Cluster School Committee.**

The areas of responsibility of the National Cluster School Committee are :

1. In cooperation with the international organizations such as UNICEF and NGOs to promote general interest and participation in the cluster school demonstration projects.

2. Gather and analyze education data and information concerning cluster schools such as enrollments, wastage rate and costing of investment in teaching and learning achievement .

3. Formulate plans for cluster school development in the Kingdom of Cambodia.

4. Monitor and supervise cluster school activities nationally.

5. Monitor and manage the use of supplies, budgets and other expenses.

6. Analyze and propose solutions to operational and technical problems related to the cluster schools.

7. Summarize, evaluate, and report on implementation of the cluster schools.

8. Issue policies and guidelines pertaining to the management, operations student learning for use by the clusters in Provincial and District Cluster School Committees.

9. Compile and prepare training materials to train cluster school personnel.

10. Cooperate with Provincial and District CSC to identify the cluster sites.

11. Coordinate with other institutions that are involved in cluster school activities.

12. Study and research cluster school models in other countries which would be applicable to the cluster school demonstration project in the Kingdom of Cambodia .

13. Encourage local materials production to support learning and teaching activities.

14. Introduce the system of competition between the

clusters and schools to upgrade the cluster implementation.

15. Approve cluster site selection as proposed by the Provincial Cluster School Committees.

16. Approve the assignment and transfer of the Provincial Cluster School Committee members.

17. Approve the plans for renovation and construction of school within the cluster.

## 5. Selection Criteria for Cluster School Sites:

The Ministry of Education, Youth and Sport, in cooperation with UNICEF has determined the criteria for cluster school selections for the demonstration project to repre-sent the conditions of the country as follows:

### 5.1 General Criteria for All Clusters :

1. Mix of good and experienced teachers and those need any training .

2. Mix of schools that are in poor, and middle economic areas.

3. Geographic location is typical of demonstration descriptions, rural , frontier, urban and minority.

4. Mix of homes headed by women and two parent families.

5. Accessible with no more than one hour commute between a starting point, each way .

6. The school is located in the same or neighboring villages

7. Security in the selected areas is good.

## 5.2 Urban Criteria :

1. Schools serving families whose livelihood depend on the city.

2. Within the boundaries defined as Battambang and suburbs.

3. Predominantly non-farm areas or a mix of farm, trade, business areas.

4. High population density compared to rural areas.

5. Teacher ratio to students is on the average, + 50:1

## 5.3. Rural Criteria :

1. Includes branch schools.

2. Both rice crops and other crops are grown.

3. Pupil ratio to teachers is approximately 40:1

4. Livelihood of the community members predominantly depends on farming .

5. Population density is low compared to the city.

## 5.4. Frontier Criteria :

1. Have been an areas supported by a non-state school system.

2. In areas isolated due to faction lines.

3. Mix of town and rural.

4. Present curriculum and materials should be integrated with state materials

5. Teacher certification by state is to be done.

**5.5. Minority :**

1. One or more languages used is by population.

2. Both branch and boarding schools have been used as are being considered

3. Pupils ratio to teachers is 30:1 or less.

4. Ethnic identification rather than Khmer.

5. Population density is lower than city and rural areas.

6. Distance and geography are barriers.

**5.6. Core School :**

The criteria for selection of primary schools to be the **"Core School "** for the cluster are as follows :

1. The school is the largest in the cluster.

2. The school is most centrally located in the cluster.

3. The existing facilities are good with space for additional construction for resource center .

4. Strong school headmaster.

## 6. Cluster School Resource Centers

The Cluster School Resource Center is one important way to support the quality development of primary education. By Utilizing the cluster schools resource center as a central base of ***training, producing, services, and development of the teaching and learning materials. It also be used to seek efficient, better techniques of teaching and organizing class activities , administration and supervision within the cluster. It is a key element in the success of the Cluster School.***

### 6.1 The Role and Functions of the Cluster School Resource Center:

The structure, role and functions of the Cluster School Resource Center including the tools and materials that are needed to fulfill its function are :

1. Set up a system of collecting information and basic statistics by gender that are needed for educational planning to include gross and net enrollments, repetition rate, drop-out rates, completion rates and access rates. Gather this data from schools within the cluster to ensure that all necessary information is completed for cluster school planning.

2. Formulate cluster school plans and activities to improve student learning, access teaching activities, decreased wastage rates and academic affairs for all satellite schools within the cluster. Community participation is to be sought in the planning .

3. Research , study , experiment and produce prototypes of teaching and learning materials. Make enough copies to support the teachers and students in classrooms within the cluster.

4. Coordinate resource sharing and cluster wide use of the library.

5. Organize capacity building activities such as teacher training, development of teaching aids, writing tests and conducting continuous assessment, etc.

6. Establish a system that ensures proper tracking of all supplies distributed to the schools in the cluster. Ensure supplies and books are received by the designated person.

7. Provide basic tools, teaching and learning materials as well as textbooks, and teaching guides for the teachers.

8. Conduct training or workshops for teachers and non-teaching staff such as Headmasters, Secretaries, and Librarians in the specific content and knowledge needed to fulfill their function. Thereby, the quality of education can be improve.

9. Disseminate the cluster plans and activities to parent and the community to encourage them to participate in the improving student learning .

10. Monitor and evaluate all cluster programs and activities. Report the results of evaluations to the Provincial Education Office and other institutions that are involved through the District Education Office.

11. Develop inventories of educational materials which are available for borrowing ;

13. Modify instructional schedules in schools to facilitate borrowing of limited amounts of materials;

14. Creat formal schedules for borrowing of materials by individual schools;

15. Carry out other activities as specified by Cluster School Committee.

**6.2 Materials for the Cluster Resource Center :** To enable the Cluster School Resource Center to fulfill its function, the basic equipment tools and materials are :

**6.2.1 Basic Tools, and Equipment :**

1. Khmer Typewriter
2. English Typewriter
3. Manual Roneo
4. Agriculture tools such as hoes, shovels, buckets.
5. Carpentry tool, such as hammers, saws,
6 Paper cutter
7. Silk screen

**6.2.2 Stationary supplies**

1. Roneo ink
2. A4 paper (quality to be determined according to enrollment)
3. Stencils
4. Stencil corrector
5. Typewriter ribbon
6. Carbon paper
7. Flip Chart paper (large)

8. Staplers and Wire No. 10
9. Manila folder
10. Meter ruler (large)
11. Compasses (large)
12. Scissors (large)
13. Glue
14. Colored chalk
15. Pencil Sharpener (large)
16. Stencil pen
17. Paint for the silk screen.

### 6.2.3 Completed Materials

1. World Map
2. Kingdom of Cambodia map
3. Alphabet chart
4. Food for Health Chart
5. Picture Stories for the practice of Khmer language

### 6.2.4 Furniture

1. Meeting table (.80x. 80x2,40 m. )
2. Chairs
3. Cabinet (wood)
4. Stand Book shelves
5. Black or white board
6. Dictionary / French / English/ Khmer
7. Technical Glossaries

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## OVERALL EVALUATION FRAMEWORK
### OBJECT : CLUSTER SCHOOL PROJECT
GOAL: Improved ACCESS to and QUALITY of primary education in targeted cluster school sites

| COMPONENT | OBJECTIVES | STRATEGIES |
|---|---|---|
| Access to Education | 1. Higher percentage of children enrolled<br>2. Higher percentage of children completing Primary education<br>3. Reduced percentage of children repeating a grade level<br>4. Reduced percentage of overage pupils finishing primary schooling.<br>5. Reduced gender disparity in enrolling and completing primary education. | 1. Establishing cluster school committees involving school and the community<br>2. Establishing a system to gather demographic education data<br>3. Training of committee members to carry out Item 1 and 2 |
| Quality of Education | 1. Increased mastery of Khmer and Math skills among primary students<br>2. Improved pedagogical skills of primary school teachers both in content and methods<br>3. Improved learning conditions in primary school within cluster sites | 1. Conducting needs assessment of<br>- training needs of teachers<br>- development needs of cluster schools<br>2. Training of teachers in content and methodology.<br>3. Improving instructional supervision of school.<br>4. Equipping cluster school with basic teaching and learning materials and aids<br>5. Renovation of physical facilities |

COMPONENT : ACCESS TO EDUCATION

| OBJECTIVES | STRATEGIES | EXPECTED OUROUT & INDICATORS | IMPACT INDICATORS |
|---|---|---|---|
| 1. Higher percentage of Children enrolled<br>2. Higher percentage of children completing primary education<br>3. Reducing gender disparity in enrolling and completing primary education<br>4. Reduced percentage of children repeating a grade level<br>5. Reduced percentage of overage pupils finishing primary school. | 1. Establishing cluster school committee involving school and the community<br>2. Establishing a system to gather demographic education data<br>3. Training of committee members to carry out Items 1 & 2 | 1. Functioning committee in the cluster school sites composed of school and community representatives<br>2. A functioning system for gathering and organizing education statistics<br>3. Trained human resources to continue work for Item 1 & 2 | <u>A Increase in</u> :<br>1. Net enrollment ratio by school, by sex<br>* Formula<br>Number of pupils enrolled aged 6-12 / Total population aged 6-12<br>2. Admission rates by school, and by sex<br>* Formula<br>a) Net admission Rate New entrants aged 6 / Population aged 6<br>b) Gross Admission rate = All new entrants / Population aged 6<br>3. Percentage of pupils completing Grade 5 - by school, by sex, by cohort<br>* Formula<br>No of pupils completing Grade. 5 / Number of pupils enrolled in Grade. 5<br>**<u>B. Decrease In</u> :**<br>1. Repetition rate - by school, by sex<br>* Formula<br>% of repeaters = No. of repeaters in Grade X, Year Y / Total enrollment in Grade X, Year Y<br>Repetition rate = No. of repeators in Grade X, Year Y / Total enrollment in Grade X, Year Y<br>2. Percentage of Overaged Pupils - by by sex , by grade<br>* Formula<br>Pupils whose ago are granter than 8 in Grade 1 9 in Grade 2 etc. / pupil enrolled in Grade 1<br>3. Percentage of underage pupils = by school by sex<br>* Formula<br>Grade 1 pupils whose ages are loss than 6/ pupils enrolled in grade 1 |

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## COMPONENT : QUALITY OF EDUCATION

| OBJECTIVES | STRATEGIES | EXPECTED OUROUT & INDICATORS | IMPACT INDICATORS |
|---|---|---|---|
| 1. Increased mastery of Khmer and Math skills among primary Students<br>2. Improve padagogical skills of primary school teacher both in content and methods<br>3. Improved learning conditions in primary school within cluster sites | 1. Conducting needs assesment of<br>- training needs of teachers<br>- development needs of cluster school.<br>2. Training of teachers in content and methodology<br>3. Improving instructional of schools.<br>4. Equipping cluster school with basic teaching and learning materials and aids<br>5. Renovation of physical facilities | 1. Identified needs reflected in a training plan and a phisical development plan for the cluster<br>2. Teacher attendance and participation in the training sessions<br>Teacher's increased level of subject matter knowledge as shown in submitted training outputs<br>Ability to demonstrate teaching methods and techniques during Training sessions: Lesson plans<br>3. Trained Instructional supervisors<br>4. A basically-equipped resourse centre in the core schools<br>5. Availability of textbooks in the cluster schools<br>6. Renovated school facilities in the core as well as satellite schools. | 1. Observable improvement on the teaching skills of teachers in the cluster schools as shown in:<br>- improve classroom interaction<br>- more student- centered learning activities<br>- evidences of attempts to individualize instruction etc.<br>2. Measurable significant gains in achievement scores in Khmer and Math.<br>3. Mastery of minimum skills in literacy and Math skills<br>4. Increased number of students passing the grade<br>5. Reduced repetition rate<br>6. Availability of a functioning system of supervision of instruction<br>7. Functioning system of sharing of resources (man power and physical ) in the cluster schools<br>8. Proper Utilization of teaching / learning materials and aids |

PROJECT MONITORING FORM

PERIOD: PROVINCE: CLUSTER:

| STRATEGY / ACTION | OUTPUT | PROBLEMS IDENTIFIE & SOLUTIONS APPLIE | COSTING | DATE BEGUN | DATE FINISHED |
|---|---|---|---|---|---|
| | | | | | |

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# Glossary

**Age - specific enrollment ratio**

The proportion of a given age - group enrolled in school in a given year to population of the same agein in that year.

**Attrition rate of teachers**

The proportion of teachers who leave the profession permanently .

**Capital expenditure**

Expenditure entailed by construction, equipment, maintenance of school building and other resources that last for more than on year

**Church hall**

A church used to accommodate one or more primary classes.

**Classroom**

Any building attached to school used to accommodate a class, other than church hall.

**Cohort**

A group of pupils joining standard 1 of primary education in a given year.

**Constant prices**

Current prices divided by a price index, the result shows how much money would have to be spent if the currency had the constant purchasing power it had in the base year.

**Cost per pupil**

Theaverage amount spent by the Ministry of Education (MOE) on each pupil

**Current prices**

Prices given in the year indicated without correction for changes in the purchasing power of money.

**Drop - out**

Leaving school before the completion of given stage of education or leaving at some intermediate of non- terminal point in a cycle of schooling.

**Educational Indicators**

The indices , ratios or growth rates which are calculated using educational statistics and, where necessary, demographic, economic and other types of data.

**Educational wastage**

Incidence, in the country's education, of drop-out and repetition.

**Expenditure per pupil**

The total expenditure of parents, the MOE, etc. per pupil.

**Gross admission rate**

The proportion of new instrants in primary education, regardless of age, to the six year - old population.

**Gross domestic product (GDP)**

Equal to the gross national product ( GNP: used in connection with all output of goods and services of a country ) less the net income of the production factors received from abroad.

**Gross enrollment ratio**

The proportion of the total enrollment, regardless of age, to the population which according to the official national regulations, should be enrolled at a specific level.

**Net admission rate**

The proportion of new entrants in primary education aged six year to the six-year-old population.

**Net enrollment ratio**

The proportion of the number of pupils enrolled of a given age-group to the size of the population of the same age-group.

**Overage pupils**

Pupil more than eight years-old in standard 1, nine years old in standard 2, etc.

**Pupil**

A child enrolled in full-time education; the figures are taken from the attendance register.

**Pupil / teacher ratio**

The proportion of pupil enrollment in a given cycle or level to the number of teachers in the same standard

**Recurrent expenditure**

Expenditure on items which are generally consumed in one years or less, including salaries and admini-stration costs.

**Repeaters**

Pupils who, at the beginning of given school year, are enrolled in the same standard doing the same work as in their previous year in school.

**Repetition rate**

The proportion of pupil who repeat the same standard doing the same standard the following year.

**Teacher**

Any person teaching full-time in a primary school, whether paid by the government of from private sources The annual survey includes teachers temporarily absent, e.g. in sick leave. Any teacher on leave for a period of more than six months should not be included.

**Underage pupils**

Pupils less than six years old in standard 1

## Indicators by rationale

| Indicator No. | Name of Indicator | Rationale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Facilities | Over-crowding | Manage-ment | Activities | Efficiency | Results | Quality | Cost |
| 1 | Percentage of pupils in classroom | √ | | | | | | | |
| 2 | Pupils / classroom ratio | | √ | | | | | | |
| 3 | Percentage of underage pupils in standard 1 | | √ | | | | | | |
| 4 | Percentage of overage pupils | | √ | | | | | | |
| 5 | Net admission rate | | | | √ | | | | |
| 6 | Net enrollment ratio | | | | √ | | | | |
| 7 | Repetition rate | | | | | √ | | | |
| 8 | Percentage of pupils completing standard 3 | | | | | √ | | | |
| 9 | Percentage of pupils completing standard 7 | | | | | √ | | | |
| 10 | Percentage of pupils gaining PSLE | | | | | √ | √ | √ | |
| 11 | Availability and use of syllabus | | | | | √ | | √ | |
| 12 | Availability and use of guides | | | | | √ | | √ | |
| 13 | Availability and use of text books | | | | | √ | | √ | |
| 14 | Use of guidelines | | | | | √ | | √ | |
| 15 | Use of radios | | | | | √ | | √ | |
| 16 | Number of pupils seated at desk | √ | | | | | | | |
| 17 | Pupil / teacher ratio | | √ | | | √ | | √ | |
| 18 | Qualification and experience of teachers | | | | | √ | | √ | |
| 19 | In - services training | | | | | √ | | √ | |
| 20 | Upgrading programme (LIFT) | | | | | √ | | √ | |
| 21 | NTTC graduates | | | | | √ | √ | | |
| 22 | Attrition rates | | | | | √ | | √ | |
| 23 | Teachers in hardship areas | √ | | | | | | √ | |
| 24 | Teachers' houses | √ | | | | | | √ | |
| 25 | Professional support for teachers | | | | | √ | | √ | |
| 26 | Management by inspector | | | √ | | | | √ | |
| 27 | Activity level of school committee | | | √ | | | | | |
| 28 | Total expenditure for education as a percentage of GDP | | | | | | | | √ |
| 29 | Total expenditure for education by school level | | | | | | | | √ |
| 30 | Sources of funding for education institutions | | | | | | | | √ |
| 31 | Public expenditure on education as a percentage of total public expenditure | | | | | | | | √ |
| 32 | Expenditure per school pupil | | | | | | | | √ |
| 33 | Expenditure per school pupil in relation to per capita GDP | | | | | | | | √ |
| 34 | Expenditure per school teacher | | | | | | | | √ |
| 35 | Expenditure per school teacher as a proportion of per capita GDP | | | | | | | | √ |
| 36 | Sources of payment for teachers | | | | | | | | √ |

## Indicators by availability

| Indicator No. | Name of Indicator | Availability | | | |
|---|---|---|---|---|---|
| | | Available | First time Inclusion in 1992 survey | To be included in the node return | Not available |
| 1 | Percentage of pupils in classroom | √ | | | |
| 2 | Pupils / classroom ratio | √ | | | |
| 3 | Percentage of underage pupils in standard 1 | √ | | | |
| 4 | Percentage of overage pupils | √ | | | |
| 5 | Net admission rate | √ | | | |
| 6 | Net enrollment ratio | √ | | | |
| 7 | Repetition rate | √ | | | |
| 8 | Percentage of pupils completing standard 3 | √ | | | |
| 9 | Percentage of pupils completing standard 7 | √ | | | |
| 10 | Percentage of pupils gaining PSLE | √ | | | |
| 11 | Availability and use of syllabus | | √ | | |
| 12 | Availability and use of guides | | √ | | |
| 13 | Availability and use of text books | √ | | | |
| 14 | Use of guidelines | | √ | | |
| 15 | Use of radios | | | √ | |
| 16 | Number of pupils seated at desk | √ | | | |
| 17 | Pupil / teacher ratio | √ | | | |
| 18 | Qualification and experience of teachers | √ | | | |
| 19 | In - services training | | | √ | |
| 20 | Upgrading programme (LIFT) | | | √ | |
| 21 | NTTC graduates | √ | | | |
| 22 | Attrition rates | √ | | | |
| 23 | Teachers in hardship areas | | | | √ |
| 24 | Teachers' houses | | √ | | |
| 25 | Professional support for teachers | | | √ | |
| 26 | Management by inspector | | √ | | |
| 27 | Activity level of school committee | | √ | | |
| 28 | Total expenditure for education as a percentage of GDP | √ | | | |
| 29 | Total expenditure for education by school level | √ | | | |
| 30 | Sources of funding for education institutions | | | √ | |
| 31 | Public expenditure on education as a percentage of total public expenditure | √ | | | |
| 32 | Expenditure per school pupil | √ | | | |
| 33 | Expenditure per school pupil in relation to per capita GDP | √ | | | |
| 34 | Expenditure per school teacher | √ | | | |
| 35 | Expenditure per school teacher as a proportion of per capita GDP | √ | | | |
| 36 | Sources of payment for teachers | √ | | | |

## Indicators by Source

| Indicator No. | Name of Indicator | Source | | | | |
|---|---|---|---|---|---|---|
| | | Annual survey | Teaching Services Unit | Inspector's report | Bureau of Statistics Report | Special survey |
| 1 | Percentage of pupils in classroom | √ | | | | |
| 2 | Pupils / classroom ratio | √ | | | | |
| 3 | Percentage of underage pupils in standard 1 | √ | | | | |
| 4 | Percentage of overage pupils | √ | | | | |
| 5 | Net admission rate | √ | | | √ | |
| 6 | Net enrollment ratio | √ | | | √ | |
| 7 | Repetition rate | √ | | | | |
| 8 | Percentage of pupils completing standard 3 | √ | | | | |
| 9 | Percentage of pupils completing standard 7 | √ | | | | |
| 10 | Percentage of pupils gaining PSLE | √ | | | | |
| 11 | Availability and use of syllabus | √ | | √ | | |
| 12 | Availability and use of guides | √ | | √ | | |
| 13 | Availability and use of text books | √ | | | | |
| 14 | Use of guidelines | √ | | | | |
| 15 | Use of radios | √ | √ | | | |
| 16 | Number of pupils seated at desk | √ | √ | | | |
| 17 | Pupil / teacher ratio | √ | | | | |
| 18 | Qualification and experience of teachers | √ | | | | |
| 19 | In - services training | | | | | √ |
| 20 | Upgrading programme (LIFT) | | | | | √ |
| 21 | NTTC graduates | √ | | | | |
| 22 | Attrition rates | | √ | | | |
| 23 | Teachers in hardship areas | | √ | | | |
| 24 | Teachers' houses | √ | | | | |
| 25 | Professional support for teachers | | | | | √ |
| 26 | Management by inspector | | | | | √ |
| 27 | Activity level of school committee | | | | | √ |
| 28 | Total expenditure for education as a percentage of GDP | | | | √ | |
| 29 | Total expenditure for education by school level | √ | | | | |
| 30 | Sources of funding for education institutions | | | | | √ |
| 31 | Public expenditure on education as a percentage of total public expenditure | √ | | | | |
| 32 | Expenditure per school pupil | √ | | | √ | |
| 33 | Expenditure per school pupil in relation to per capita GDP | √ | | | √ | |
| 34 | Expenditure per school teacher | √ | | | | |
| 35 | Expenditure per school teacher as a proportion of per capita GDP | √ | | | √ | |
| 36 | Sources of payment for teachers | √ | | | | |

## Appendix 4: Description of available Indicators

**Indicator 1: Percentage of pupils in classroom**

Objective: To measure the increase of pupils in classroom

Rationale : Facilities, overcrowding

Level : National and by district

Breakdown: By district and by standard

Formula : $\frac{\text{Number of pupils in classroom}}{\text{Number of pupils in primary schools}}$

Source : Annual surveys

Validity :

Frequency : Yearly

**Indicator 2 : Pupils / classroom ratio**

Objective : To measure the decrease of overcrowded classes

Rationale : Overcrowding

Level : National and by district

Breakdown : By district and by standard

Formula : $\frac{\text{Number of pupils}}{\text{Number of classroom ( Including church hall ) \% of classroom with pc > 50}}$ $\frac{\text{Number of pupils in classrooms}}{\text{Number of classrooms}}$

Source : Annual survey

Validity :

Frequency : Yearly

**Indicator 3 : Percentage of underage pupils in standard 1**

Objective : To measure the decrease of underage pupils in standard 1

Rationale : Overcrowding

Level : National and by district

Breakdown : By district and by sex

Formula : $\frac{\text{Pupils < 6 years old in standard 1}}{\text{Pupils enrolled in standard 1}}$

Source : Annual surveys

Validity :

Frequency : Yearly

**Indicator 4 : Percentage of Overage pupils**

Objective : To measure the decrease of overage pupils

Rationale : Overcrowding

Level : National and by district

Breakdown : By type of area, by standard, by sex

Formula : $\frac{\text{Pupils} > \propto 8 \text{ in grade 1, 9 in grade 2, etc.}}{\text{Pupils enrolled}}$

Source : Annual surveys

Validity :

Frequency : Yearly

**Indicator 5 : Net Admission rate**

Objective : To measure the Admittance

Rationale : To assess capacity of school system to accept age 6 in school.

Level : National by district

Breakdown : By district, by sex

Formula : $\frac{\text{New entrants}}{\text{Population aged 6}}$ $\frac{\text{New entrants aged 6}}{\text{Population aged 6}}$

Source : Annual surveys, Bureau of Statistics' reports

Validity :

Frequency : Yearly

**Indicator 6 : Net enrollment ratio**

Objective : To measure part of pupils enrolled in the normal age

Rationale : Education for all

Level : National by district

Breakdown : By district, by sex

Formula : $\frac{\text{Number of pupils enrolled aged 6 -12 years}}{\text{Total population aged 6 -12 years}}$

Source : Annual surveys, Bureau of Statistics' reports

Validity :

Frequency : Yearly

**Indicator 7 : Repetition rate**

Objective : To measure decrease of repetition

Rationale : Overcrowding, efficiency

Level : National by district

Breakdown : By district, by standard and by sex

Formula : $\frac{\text{\% of repeaters=Number of repeaters in standard x year y}}{\text{Total enrollment in standard x year y}}$

$\frac{\text{Repetition rate=Number of repeaters in standard x year y}}{\text{Total enrollment in standard x year y-1}}$

Source : Annual surveys

Validity : Special surveys

Frequency : Yearly

**Indicator 8 : Percentage of pupils completing standard 8**

Objective : To measure decrease of drop-out during standards1-3

Rationale : Efficiency
Level : National and by district
Breakdown : By district and by sex
Formula : Cohort analysis
Source : Annual surveys
Validity :
Frequency : Yearly

**Indicator 9 : Percentage of pupils completing standard 7**
Objective : To measure decrease of drop-out during the primary level
Rationale : Efficiency
Level : National and by district
Breakdown : By district and by sex
Formula : Cohort analysis
Source : Annual surveys
Validity :
Frequency : Yearly

**Indicator 10 : Percentage of pupils obtaining PSLE**
Objective : To measure the increase of success dunng the primary level
Rationale : Efficiency , quality
Level : National and by district
Breakdown : By district and by sex
Formula : -Cohort analysis
-Percentage of pupils gaining first, second, third class pass
Source : Annual surveys
Validity :
Frequency : Yearly

**Indicator 13 : Availability and use of textbooks**
Objective : To measure the increase of availability and use of teaching materials
Rationale : Quality
Level : National and by district
Breakdown : By district subject and standard
Formula : Number of textbooks
- available
- In use
% of school with less than textbooks
- available
- In use
Source : Annual surveys
Validity : Inspector reports
Frequency : Yearly

**Indicator 16 : Percentage of pupils seated at desk**
Objective : To measure the increase in the number of children seated at desk
Rationale : Improvement of facilities
Level : National and by district
Breakdown : By district and by standard
Formula : Number of pupil seated at desk

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Total number of pupils in school
Percentage of school with less than ∝% of pupils seated at desk
Source : Annual surveys
Validity : Inspectors and DRT
Frequency : Yearly

**Indicator 17 : Pupil / teacher ratio**
Objective : To measure the decrease of this ratio
Rationale : Overcrowding , quality , teacher supply
Level : National and by district
Breakdown : By district and by standard ( 1-3;4-7)
Formula : Number of pupils enrolled

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Number of teachers teaching
% of school with pt > 54
Source : Annual surveys
Validity : Inspector's report, statistical return
Frequency : Yearly

**Indicator 18 : Qualification and experience o f teachers**
Objective : To measure the increase of qualified and experienced teachers
Rationale : Quality
Level : National and by district
Breakdown : By district and by standard ( 1-3;4-7)
Formula : - Percentage of qualified teachers / total of teachers
- Average length of teaching
Source : Annual surveys
Validity : TSD
Frequency : Yearly

**Indicator 21 : NTTC graduates through pre-services**
Objective : To measure the increase of qualified teachers
Rationale : Quality
Level : National by district
Breakdown : By district and by hardship area
Formula : Number of graduates
Source : NTTC records
Validity : NTTC
Frequency : Yearly

**Indicator 22 : Attrition rate**
Objective : To measure the decrease of attrition rate
Rationale : Quality
Level : National , district and by hardship area
Breakdown : By district and by type ( resignation, retirement, dismissal
Formula : Number of teacher leaving teaching

Total number of teaching
Source : Teaching service dep.
Validity : TDS, DEOS
Frequency : Yearly

**Indicator 28 : Total expenditure for education as a percentage of gdp**
Objective : To find out how marry national resources are spent in education
Rationale : Expenditure reflects government priority
Level : National
Breakdown :
Formula : Expenditure on education

GDP
Source : Finances, Bureau of Statistics, central banks
Validity : IMF
Frequency : Yearly

**Indicator 29 : Total expenditure for education by educational level**
Objective : To monitor changes in distribution of resources between level
Rationale : Expenditure reflects government priorities
Level : National
Breakdown : Education level and type of expenditure (capital current)
Formula : Total expenditure by level

Total expenditure for education
Source : Finances, MOE records
Validity :
Frequency : Yearly

**Indicator 31 : Public expenditure on education as percentage of total public expenditure**
Objective : To monitor the increase in education's share of government expenditure.
Rationale : To ensure that education has sufficient support to Implement the plan
Level : National
Breakdown :
Formula : Public expenditure on education

Total public expenditure
Source : Finances
Validity :
Frequency : Yearly

**Indicator 32 : Per capita expenditure by level**
Objective : To compare per capita expenditure by level
Rationale : Equitable distribution
Level : National
Breakdown : By level
Formula : Recurrent expenditure by level

Total public enrollment by level
Source : MOE, financial records
Validity :
Frequency : Yearly

**Indicator 33 : Expenditure per pupil by level in relation to per capita public expenditure GDP**
Objective : To compare expenditure per pupil with other countries
Rationale : To establish the country's commitment to spend on education.
Level : National
Breakdown : By level
Formula : Expenditure per school level

Per capita GDP
Source : MOE, records, financial records
Validity :
Frequency : Yearly

**Indicator 34 : Expenditure per school teacher**
Objective : To measure the effort to retain teachers
Rationale : To adjust for inflation
Level : National
Breakdown : By level
Formula : Expenditure for teachers

Number of teachers
Source : TSD
Validity :
Frequency : Yearly

**Indicator 34 : Expenditure per school teacher as a proportion of per capita GDP**
Objective : To compare the effort for teachers with other countries
Rationale : To establish the commitment to retain teachers
Level : National
Breakdown :
Formula : Expenditure per school teachers

Per capita GDP
Source : Financial records, TSD
Validity :
Frequency : Yearly

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